2019

Quality Improvement: Cervical Cancer Screening Rates within Hudson Headwaters Health Network

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Longitudinal Integrated Clerkship

Glens Falls, New York

Dylon Gookin

Class of 2020

Larner College of Medicine at the University of Vermont

Problem Identification & Description of Need

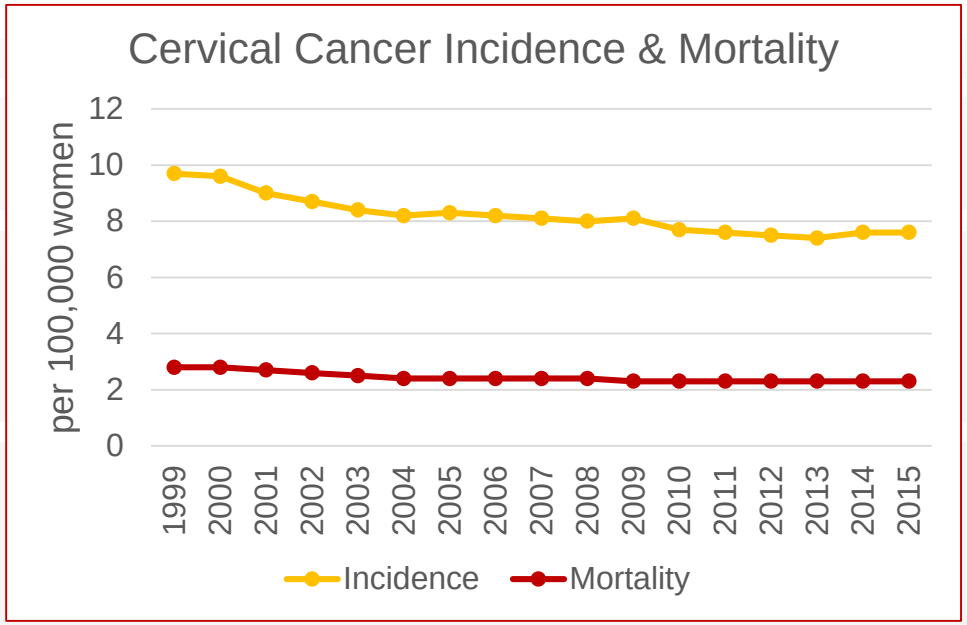
Cervical Cancer: The Basics

Incidence: 7.5/100,000/year

- 62,645 new cases from 2011-2015 alone

Mortality: 2.3/100,000/year

- 20,673 deaths from 2011-2015
- 5 year survival rate: 67%



Screening:

- Pap smear:
  - Provider collects cells via swab at outer opening of cervix
  - Cells are observed for precancerous changes
- High Risk HPV testing:
  - Identifies if DNA of high risk HPV types are present in cervical cells
  - 70% of cervical cancer can be attributed to just two HPV types: 16 and 18

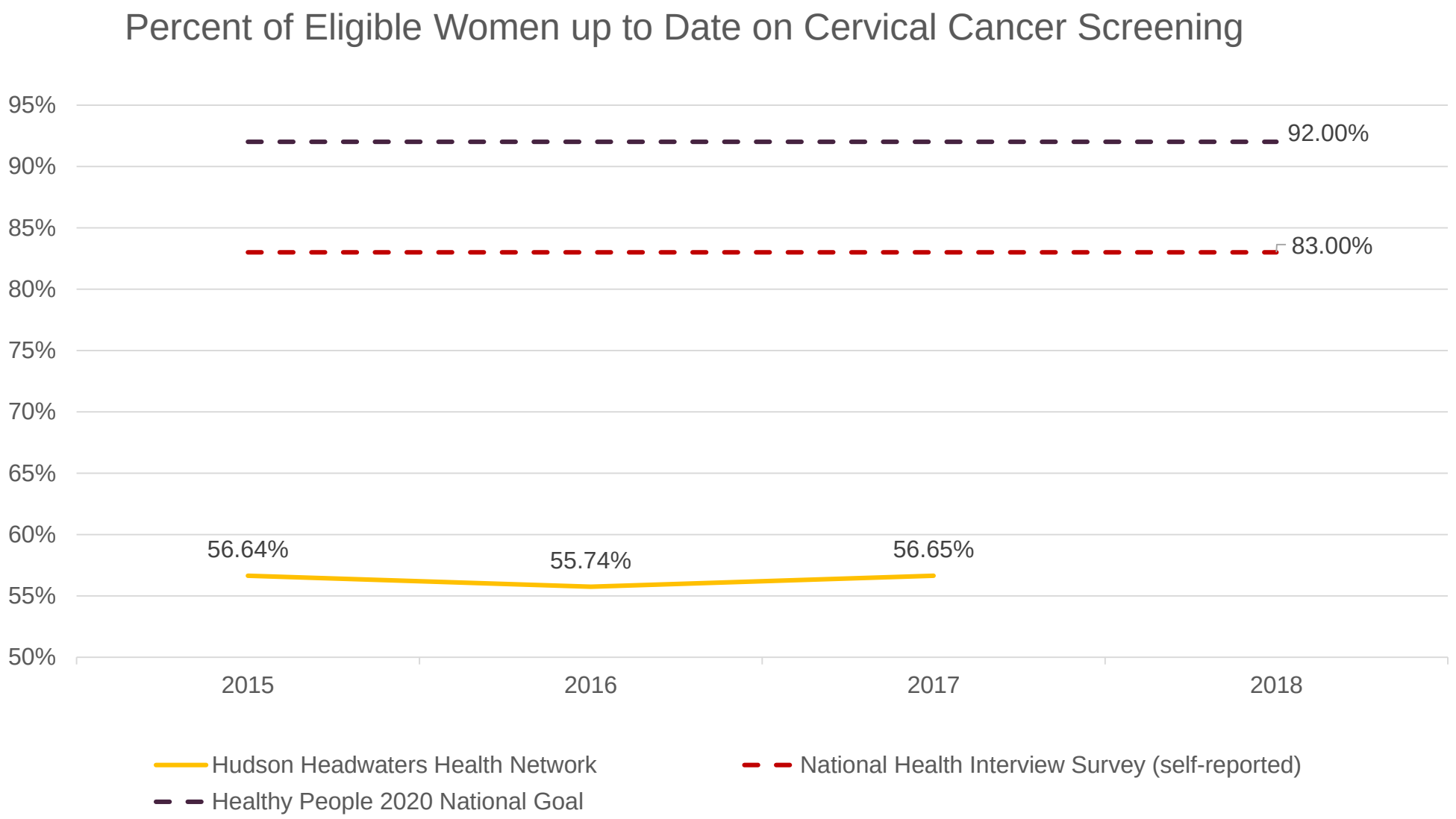
HPV: the primary cause of cervical cancer

- Most common STI in the US (Incidence: 14million/year)
- >200 identified HPV types, ~40 preferentially effect genital mucosa
- Often transient, but some HPV types tend to persist
- Persistent HPV infection can induce cell abnormalities leading to cervical cancer
- HPV is not a reportable disease (except in some states)

American College of Obstetricians and Gynecologists: Cervical Cancer Screening Guidelines

Population*	Recommendation	Recommendation Grade†
Women aged <21 years	No screening	D
Women aged 21 - 29 years	Cervical cytology alone every 3 years	A
Women aged 30 - 65 years	Cervical cytology alone every 3 years **OR** high risk HPV testing‡ alone every 5 years **OR** Co-testing (high risk HPV testing‡ and cervical cytology) every 5 years	A
Women aged >65 years with adequate prior screening	No screening	D
Women who have had a hysterectomy with removal of the cervix and do not have a history of high-grade cervical precancerous lesion or cervical cancer	No screening	D

Cervical Cancer Screening Rates



Public Health Cost

$8.0 billion annual direct cost burden HPV-associated disease:

- $6.6 billion (82.3%): routine cervical cancer screening and follow-up
- $1.0 billion (12.0%): cancer
  - $0.4 billion for cervical cancer
  - $0.3 billion for oropharyngeal cancer
- $0.3 billion (3.6%): genital warts
- $0.2 billion (2.1%): recurrent respiratory papillomatosis

Community Perspective

Key Points from discussions with primary care providers

- Patients dislike receiving prompts for screening when visiting for an unrelated reason
- Screening appointments made by providers leads to no-shows
- OB/GYN visits generally imply the possibility of screening

> *As with a lot of diseases, there continues to be many people that don't think getting a diagnosis of cervical cancer will happen to them.*
> *~ Linda Spokane (VP, Population Health Management, Hudson Headwaters)*

> *There is a lot of confusion over what causes cervical cancer, who gets it, and why it's critical to seek treatment when any abnormalities are detected. Especially with the new guidelines around the frequency recommended for pap smears, there are conflicting messages patients are hearing about how to protect themselves.*
> *~ Emma Corbett (VP of Communications, Planned Parenthood Mohawk Hudson)*

Intervention Development

Two Schools of Thought

The Winding Way

1

Initial Brainstorm Session

- Patients vs Providers

2

Research

- Target Population
- Effective Methods
- Letter/Pamphlets

3

Final Proposal Approval

4

Material Preparation

6

The Mailout

- Mailings Made Easy

7

The Waiting Game

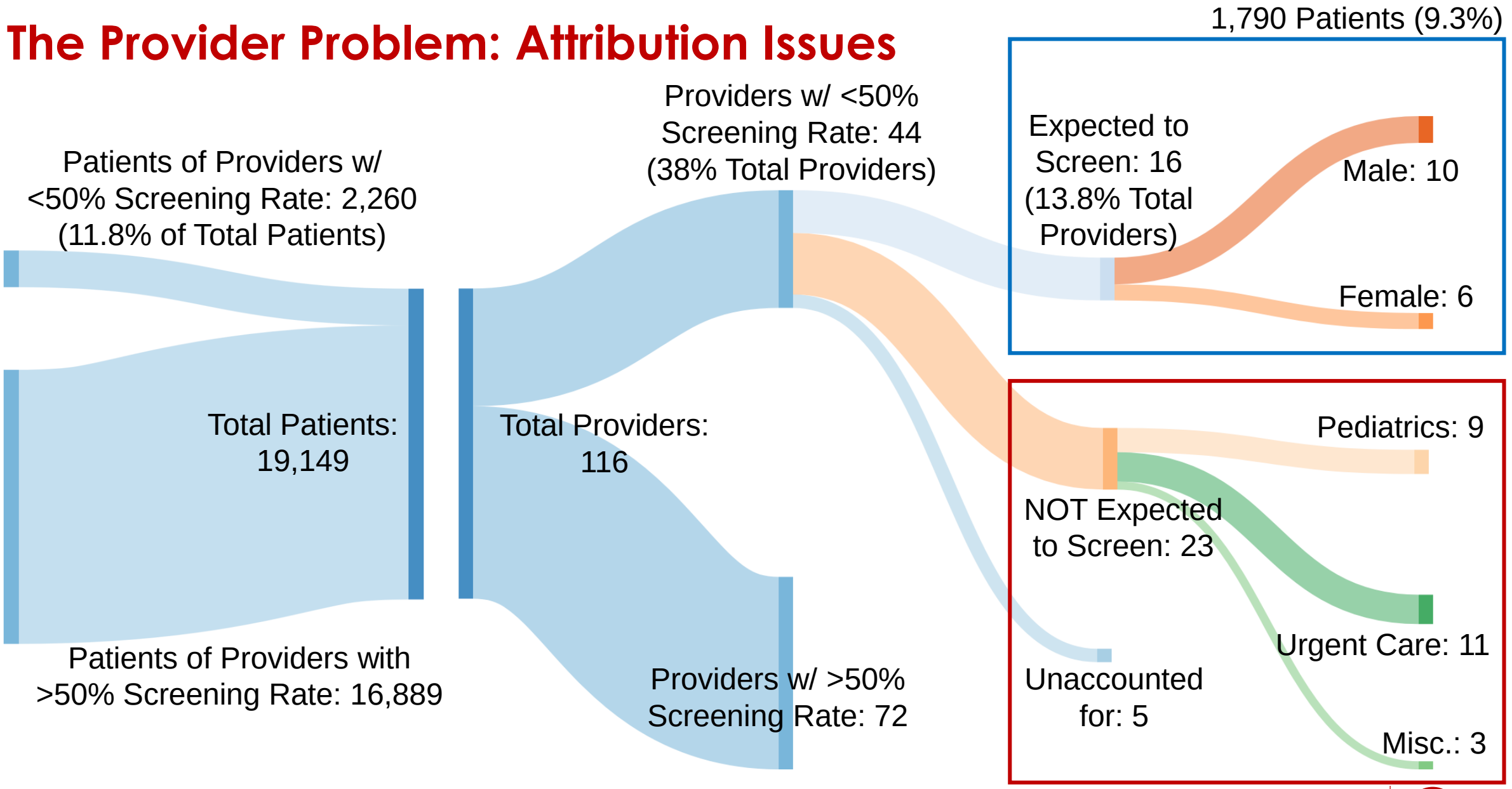
- 2019 WMH2 Data

"Preventive care for women. Does the sex of the physician matter?" *Lurie, et al.*

Method:	Results:	Authors' conclusions:

• Midwest US, 1990
• 97,962 women
• 18 to 75 years of age
• Pap smear frequency for each physician calculated against number of women in his or her practice.
	• Pap smears with female physicians compared to male physicians
	  • OR = 1.99
	  • 95% CI: 1.72 to 2.30
		• Women are more likely to undergo screening with Pap smears if they see female rather than male physicians
		• Particularly if the physician is an internist or family practitioner.

The Provider Problem: Attribution Issues



The Patient Problem: Target Demographics

<u>The Ideal Demographic</u>

High percentage of people missing screening

Represents high percentage of population lacking screening

Trends:

- Income range, chronic conditions, BMI group, age range, insurance type
  - No trend
- Mammogram rates: positive trend
  - Women >50 that had mammograms were more likely to have pap smear
- PHQ-9 Score: negative trend
  - Except for unscored patients
  - Most at risk population: 29-32% missing screening
  - 1% of population lacking screening

Outliers:

- Age Range: 20-23
  - 51-59% missing screening
  - 6-10% of population lacking screening
- BMI Group: BMI < 18.5
  - 45-47% missing screening
  - 2-3% of population lacking screening

"Interventions targeted at women to encourage the uptake of cervical screening." *Everett, et al.*

Method:

- Meta-analysis: 38 randomized controlled trials
- ~100,000 participants
- Majority of studies took place in developed countries

Results:

- Invitation letters compared to control group
  - RR = 1.44
  - 95% CI: 1.24 – 1.52
- Face-to-face Education
  - RR = 2.33
  - 95% CI: 1.04 – 5.23
- Group Education
  - RR = 1.92
  - 95% CI: 1.24 – 2.97

Authors' conclusions:

- Evidence supports invitation letters to increase the uptake of cervical cancer screening.
- Some evidence supports educational interventions; unclear what format is effective.

Reasoning for Target Demographic

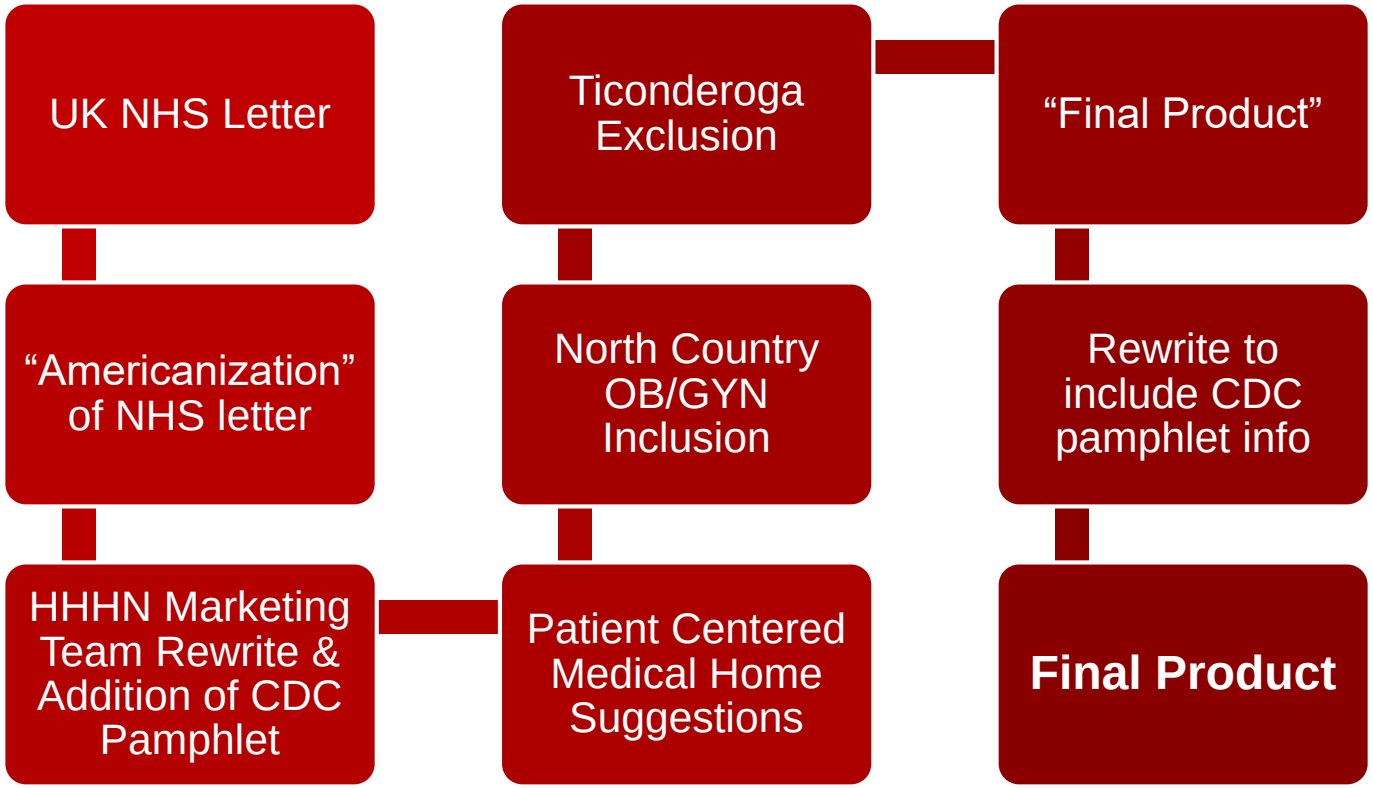
West Mountain Health Services, Building 2

- Room for Improvement: 67.99% screening rate (2018)
- Opportunity for Impact: Represents **19.6%** of HNNN population lacking screening (2017)
- Consistent target for improvement since 2016

Ticonderoga Health Center

- Room for Improvement: **48.65%** screening rate (2018)
- Opportunity for Impact: Represents 12.5% of HHHN population lacking screening (2017)
- Consistent target for improvement since 2016

Letter Development



Where We Started

We are writing to invite you to make an appointment for NHS cervical screening.
The NHS offers cervical screening to save lives from cervical cancer. It does this by finding abnormal cells in the cervix, before they have a chance to develop into cancer. Any abnormal cells that are found can be removed, to prevent cervical cancer developing.

Cervical screening is offered to women aged 25 to 49 every three years, and to women aged 50 to 64 every five years. Cervical screening used to be called a 'smear test'.
As part of cervical screening, your sample may be tested for a virus called human papillomavirus (HPV), which is the cause of cervical cancer.

Your choice
It's up to you whether or not to have cervical screening. To help you make a decision, we have enclosed a leaflet about what cervical screening involves, and the benefits and risks. The leaflet also tells you about the new HPV test, so it is important to read it, even if you have had cervical screening before.

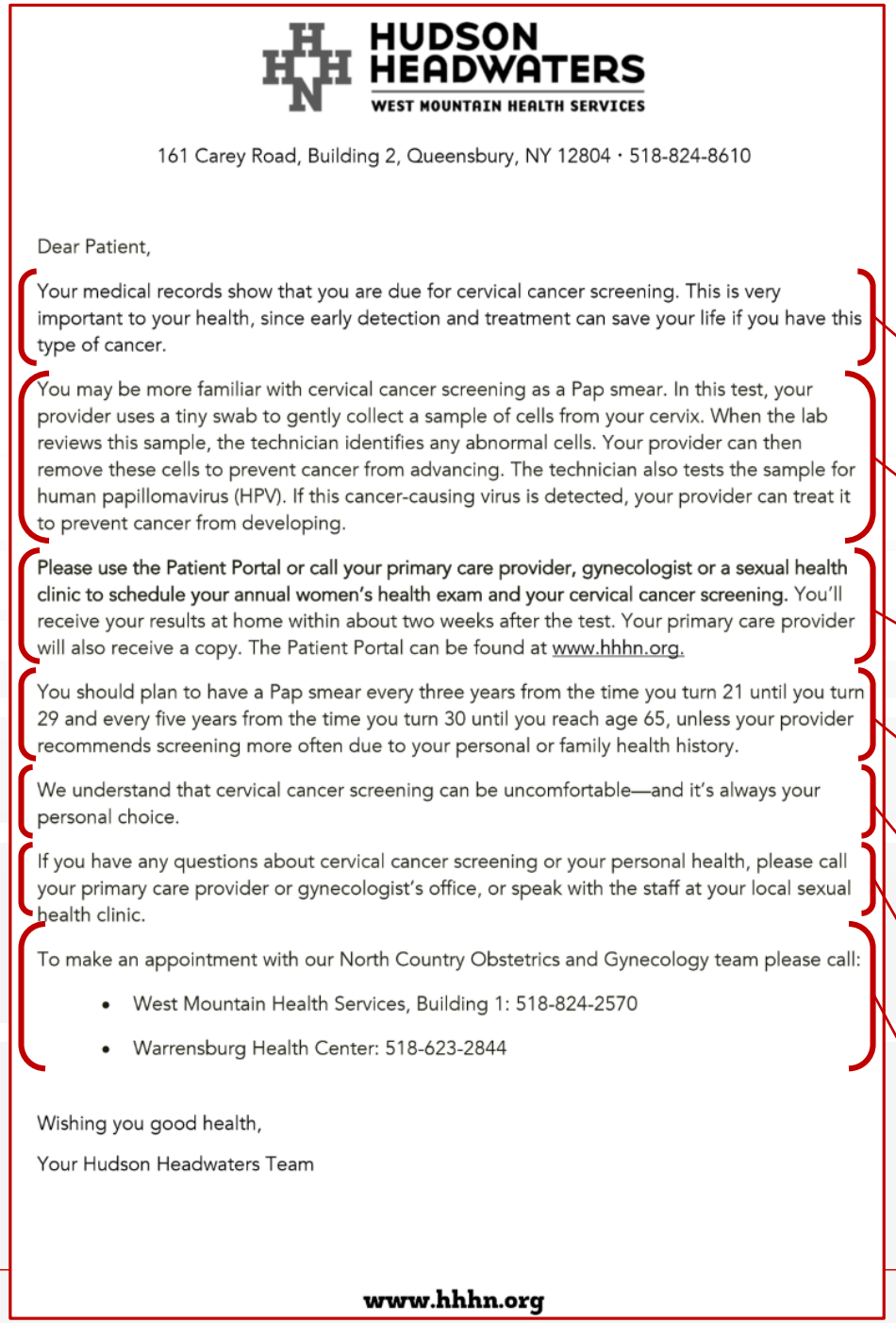
What happens next?
You can make an appointment for cervical screening by phoning your GP surgery. Screening may also be available at a local family planning or sexual health clinic. They should be able to offer you an appointment at a convenient time.

Your result will be sent to your home and to your GP and should arrive within two weeks of your test. If you have any questions or concerns about cervical screening, you can talk to your GP, practice nurse or sexual health clinic.

Sent by the cervical screening programme on behalf of your GP

What We Accomplished

Invitation letters sent to 1075 patients
Costs: ~$650, including postage



HUDSON HEADWATERS
WEST MOUNTAIN HEALTH SERVICES

161 Carey Road, Building 2, Queensbury, NY 12804 · 518-824-8610

Dear Patient,

Your medical records show that you are due for cervical cancer screening. This is very important to your health, since early detection and treatment can save your life if you have this type of cancer.

You may be more familiar with cervical cancer screening as a Pap smear. In this test, your provider uses a tiny swab to gently collect a sample of cells from your cervix. When the lab reviews this sample, the technician identifies any abnormal cells. Your provider can then remove these cells to prevent cancer from advancing. The technician also tests the sample for human papillomavirus (HPV). If this cancer-causing virus is detected, your provider can treat it to prevent cancer from developing.

Please use the Patient Portal or call your primary care provider, gynecologist or a sexual health clinic to schedule your annual women's health exam and your cervical cancer screening. You'll receive your results at home within about two weeks after the test. Your primary care provider will also receive a copy. The Patient Portal can be found at www.hhhn.org.

You should plan to have a Pap smear every three years from the time you turn 21 until you turn 29 and every five years from the time you turn 30 until you reach age 65, unless your provider recommends screening more often due to your personal or family health history.

We understand that cervical cancer screening can be uncomfortable—and it's always your personal choice.

If you have any questions about cervical cancer screening or your personal health, please call your primary care provider or gynecologist's office, or speak with the staff at your local sexual health clinic.

To make an appointment with our North Country Obstetrics and Gynecology team please call:

- West Mountain Health Services, Building 1: 518-824-2570
- Warrensburg Health Center: 518-623-2844

Wishing you good health,

Your Hudson Headwaters Team

www.hhhn.org

- Notification that patient is due for screening
- Education regarding screening process
- Invitation for patient to set appointment
- Education regarding screening guidelines
- Reminder that care is patient-centered
- Invitation for patient to call with questions
- Relevant contact information

Effectiveness, Strengths, and Limitations

Measure of Effectiveness

- Percent of eligible women at West Mountain Health Services 2 who underwent screening
- 2019 vs previous years

Strengths

- Large sample size = greater power of possible results
- Utilizes well-studied methods for improving rates

Limitations

- Time constraints
  - Inability to personally follow up on results
- Cost limitations
  - Led to elimination of CDC pamphlet
  - Limited locations
- Sample size limited to West Mountain Health Services 2
  - More rural areas left out
  - WMHS2 has better than average screening rates for HHHN

Recommendations for the Future

Provider focus

- With improved attribution, isolate provider demographic with continued poor screening rates
- Offer re-education on importance and method

Patient education

- Regular reminders
- Public Health Education Booth
- Personalized Reminder Letters

Data analysis of effectiveness of this program

- If successful
  - develop continued initiative
  - expand to other parts of HHHN

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- HHHN Marketing
- HHHN Public Health

HUDSON HEADWATERS Health Network

The University of Vermont
LARNER COLLEGE OF MEDICINE

THANK YOU

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